



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

CURRENT LITERATURE.

BOOK REVIEWS.

Plant physiology.

GERMAN PHYSIOLOGISTS all seem to have been resting on their oars, awaiting the forthcoming volumes of Pfeffer. Not since the publication of Sachs's lectures has a book of any considerable size appeared in Germany, though Detmer's work, a part of Schenck's *Handbuch*, could be purchased separately. Dr. Ludwig Jost¹ of Strassburg has been engaged for several years on a volume intermediate between the monumental work of Pfeffer and the brief treatment of physiology by Noll in the "Bonn" *Lehrbuch*.

As a result of his labors we have a volume of almost 700 pages, treating in a critical and yet synoptic fashion the metabolism, the morphogeny, and the energetics of plants. The work takes the form of lectures, and by this device retains a vigor of phrase and fitness of description that is impossible in a more formal type of composition. The sentences are clear, direct, and forceful, and the style is consequently most attractive. In this it stands in sharp contrast with the work of Pfeffer, whose completion we note below.

Jost gathers up the literature through 1902 and exhibits critical acumen in sifting the mass of data which have accumulated. The section on metabolism treats the usual topics, somewhat more space being given to the ash constituents of plants perhaps than the reliable data will justify. Under the heading carbon and nitrogen the author discusses photosynthesis and proteid making, as well as respiration, digestion, fermentation, and other processes. So general a heading, therefore, is hardly useful, since all the metabolism of plants is connected with these two elements. Unfortunately, the author continues the use of the term "assimilation" for the synthetic processes which really precede true assimilation, and we have such divisions as *Assimilation bei den Autotrophen* and *Assimilation bei den Heterotrophen*, two processes which are so unlike that the identical terminology is sure to be confusing.

A second section of the book treats morphogeny (*Formwechsel*) rather more fully than is usual, but not more so than is desirable; to it almost one-third of the book is devoted. Besides the consideration of growth and development and the influence of external factors thereon, reproduction, heredity, and variation find adequate treatment. The section on reproduction is not a mere description of reproductive organs, as is so commonly the case, but a discussion of the physiological processes that are connected with these organs.

¹JOST, LUDWIG, Vorlesungen über Pflanzenphysiologie. Imp. 8vo. pp. xiii + 695. figs. 172. Jena: Gustav Fischer. 1904. M13; bound M15.

In a third section, *Energiewechsel*, the author discusses movements of all kinds, whether due to warping, to growth, or to turgor variations.

The scope of this work, its freshness, conciseness, and not least its clear and pleasing style, will commend it to every reader. It is easily the best work on plant physiology in any language for the general student. We hope that it will be translated promptly into English, though the necessity for this is not so great as in the case of some less readable works.—C. R. B.

THE LAST PART of the second volume of Pfeffer's *Pflanzenphysiologie*² has recently made its appearance from the press of Wilhelm Engelmann at Leipzig. Its publication, indeed, is almost simultaneous with the English translation of the first part of the same volume. We may therefore expect that the usual two years will elapse before this final part is translated into English. This portion is devoted entirely to the movements of plants, except a short chapter on the production of heat, light, and electricity, and a synoptical account of the forms and amount of energy exhibited in plants. In the discussion of movement one feels still more strongly the lack of coordination which is a marked characteristic of the whole work. The field in which there was needed the utmost clarity of statement and organization of facts is naturally the one in which the lack of such definite organization and clear presentation is most felt. But in spite of this serious fault one finds the same suggestiveness in the treatment of the various topics that has likewise characterized the preceding portions of the work. The same concise bibliography (notwithstanding the often incomplete citations) puts one into immediate touch with the more important literature. It is as impossible as it is unnecessary to go into detail in reviewing this volume. The mere announcement of its publication is all that is needed to insure its purchase by every institution in which plant physiology has a place and by every student who touches more than the rudiments. And the German original is as important to the investigator as the more easily read translation.—C. R. B.

THE SECOND INSTALLMENT of the English edition of Pfeffer's *Physiology of Plants*³ has recently appeared. Its sub-title is *Growth, reproduction, and maintenance*. The present volume is both more and less than a translation. Dr. Ewart's aim has been to transfer the meaning into good English without undue regard to the original form, so that many of the involved paragraphs of the author may be said to be interpreted rather than translated. This is usually a distinct improvement, and can cause serious trouble only in those comparatively rare cases where the author's meaning is not quite

² PFEFFER, W., *Pflanzenphysiologie: ein Handbuch der Lehre vom Stoffwechsel und Kraftwechsel in der Pflanze*. Zweiter Band: Kraftwechsel. 2. Hälfte. Imp. 8vo. pp. xi + 353 to 986. *figs. 60*. Leipzig: Wilhelm Engelmann. 1904. *M*19. Parts 1 and 2 of Vol. II, *M*30; bound *M*33.

³ EWART, A. J., *Pfeffer's Physiology of Plants*, Vol. II. *Growth, reproduction, and maintenance*. 8vo. pp. viii + 296. *figs. 31*. Oxford: The Clarendon Press. 1903

clear. But there are places where certain finer shades of meaning in the original are not reproduced in the translation. These, of course, are the passages wherein Pfeffer's personality and suggestiveness of mind are hinted at by form of statement, and it thus comes about that the English volume contains somewhat less of Pfeffer and more of Ewart, albeit its physiology is more concisely put than in the German edition. Also, while the entire omission in the translation of the author's numerous parenthetical cross references to other sections of the same work makes the text more readable, it cannot but be regretted that the volume has thus been robbed of one of the most characteristic and valuable features which the original possessed for research workers. For the latter class of English readers the German edition will still be in demand, though no place where physiology is studied can afford to be without the translation.

In form, typography, etc., this volume follows the previous English volume and leaves nothing to be desired. The footnotes which cite the literature are usually merely translated, and have all the good and bad qualities of those of the original.—B. E. LIVINGSTON.

Plant geography.

THE appearance of the English edition of Schimper's great masterpiece⁴ has been long awaited with impatience by all English and American botanists. During the latter part of 1903 the Clarendon Press issued the translation in instalments, and the completed work has been recently distributed. Every ecologist—one wishes he might say every botanist—has a well-thumbed copy of the original German edition upon his desk, and it has been one of the reference books most consulted during the past five years. Perhaps to such the appearance of a translation is too late to be of the greatest service. But to the reading public and to the students of botany in high schools, colleges, and universities the translation makes readily accessible this indispensable work. There can no longer be any reason for omitting ecological work from the higher botanical curricula.

The translation was prepared by W. R. Fisher, under the efficient supervision of Groom and Balfour. An excellent photogravure portrait of Schimper forms the frontispiece. This is a particularly welcome addition, since it has been very difficult to secure satisfactory portraits of the great ecologist. Another addition in the English edition is a sympathetic appreciation of Schimper, written by Groom.

One cannot praise too highly the laborious faithfulness to the original, which is shown in the translation. No unfortunate attempts are made to

⁴SCHIMPER, A. F. W., *Plant geography upon a physiological basis*. Authorized English translation by WILLIAM R. FISHER; revised and edited by PERCY GROOM and ISAAC BAYLEY BALFOUR. With a photogravure portrait, five collotypes, four maps, and four hundred and ninety-seven other illustrations. Imp. 8vo. pp. xxx + 839. Oxford: Clarendon Press. 1903. *Ss.* 42.